



# WHAT TO CONSIDER WHEN PURCHASING LED PANELS

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## COMMON SENSE?

- There is no substitute for getting the camera/s you intend to use with the settings you intend to use them with and doing a test shoot on your chosen LED panels
- Use examples of content (Unreal/ plates etc) at the frame rate and EOTF you intend to use them at.
- Also test how you might move the camera (crane, dolly etc)
- Doing your homework could save you literally hundreds of thousands of pounds

# VIEWING ANGLE

- Check the viewing angle of the panels is appropriate for your application
- This is particularly pertinent for application using cranes and dollies
- Unpleasant colour shifts can result if you are not within the viewing angle

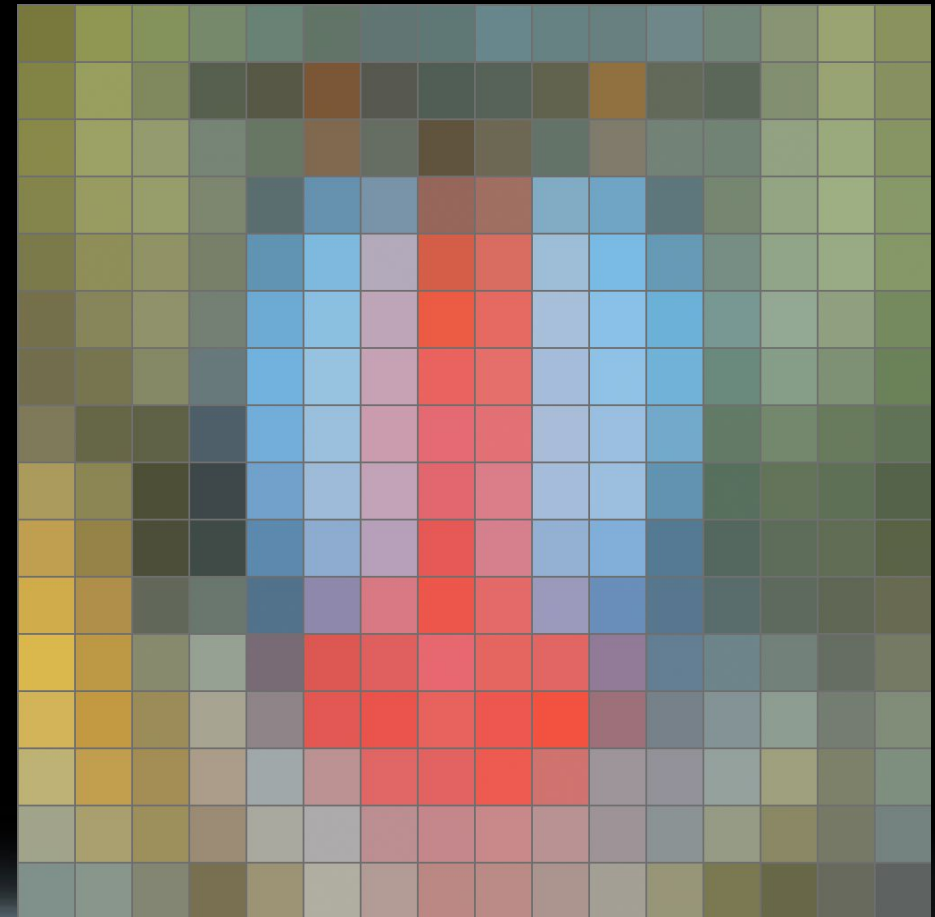
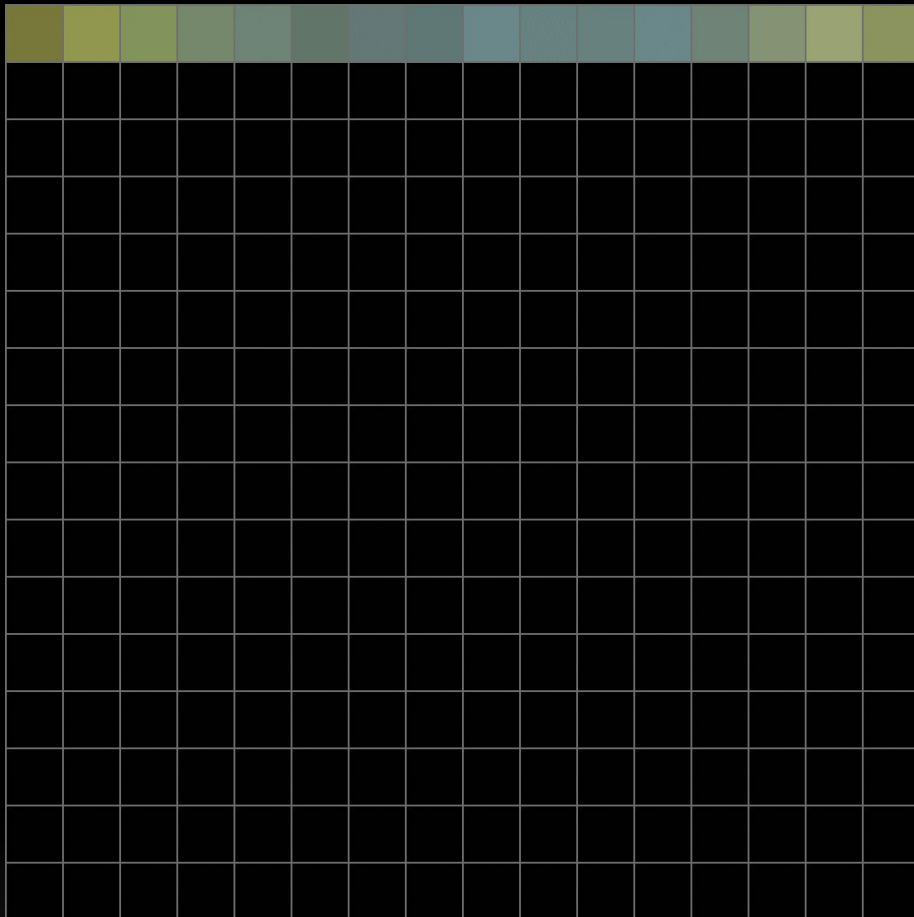


# SCAN LINE MULTIPLEXING

- Scan line multiplexing AKA scan multiplexing AKA Scan Mux
- Modern LED systems use LED driver ICs to drive PWM to the LEDs
- Instead of having a dedicated IC output per pixel, the IC outputs are shared across several LEDs, generally on different lines.
- The number of lines each driver output controls is known as the scan mux ratio.
- E.g. 16:1 scan mux ratio means each driver IC output drives 16 different lines.
- The driver IC controls the electronics that switch which of these lines of pixels it is driving very rapidly. Persistence of vision means the eye builds up a flicker-free complete image.



# SCAN MUX



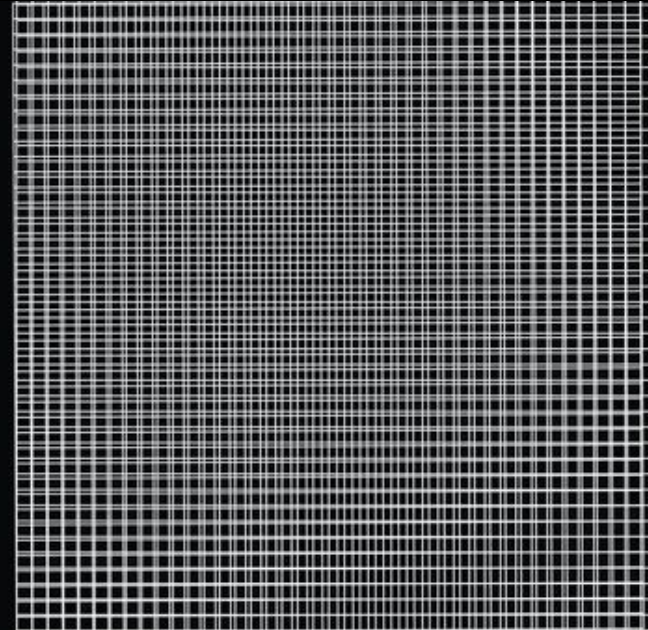
- A scan-mux ratio equal or below 11:1 is preferable for VP
- However, be aware that camera, source and LED processors need to be genlocked together
- A lower scan-mux ratio can often mean higher maximum frame rate

# HIGH END PROCESSING

- Proper calibration that allows for colour accurate workflows and correctly implements SDR and HDR EOTFs
- Genlock is essential – source, camera and processing – from input to LED refresh need to be genlocked together
- 10-bit/12-bit processing is required for HDR and wide colour gamut
- ShutterSync® – allows the timing of the LED refresh to be tuned to camera settings.
- Advanced colour correction
- Low level brightness features

## SMALLER PIXEL PITCH

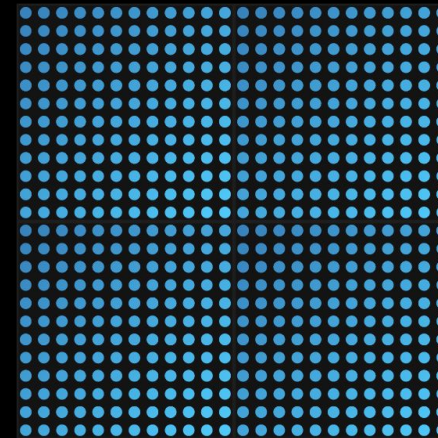
- Can reduce help to reduce moire
- Moire is an optical effect
- It is caused by mismatch between photosite resolution and LED pixel pitch, focal length of the lens being used and the distance to the screen.
- NB Very fine pixel pitches can mean that the LEDs are less bright and less capable than slightly higher pixel pitches





# HIGHER FRAME RATES

- Panels that support higher frame rates are more versatile and have more headroom for features like Extended Bit Depth
- Frame rate multiplication and Frame Remapping require high frame rates
- High frame rate panels can be useful for esports
- The highest frame rate panels can support up to 250Hz



HFR+?

# INTRODUCTION

Powerpoint template for Brompton in black. Please see assets folder for other options.

To access further slide options – click New Slide and select a slide from the dropped down options.

To access the bullet point variations, click the bullet text box and either use the tab key to see the different options or via the Home ribbon in the Paragraph section use the 'Increase List Level' button.



- First bullet
  - ✓ Second bullet
  - ✓ Third bullet
    - Fourth bullet
      - Fifth bullet

# BRIGHTER IS NOT ALWAYS BETTER

- Pick panels that are bright enough for the task at hand
- Outdoor panels are 5000 – 6000 Nits and are way too bright for indoor use.
- Often panels are used at a fraction of their rated brightness
- This where having a processing system that supports low level brightness features like our Dark Magic, Studio Mode, Extended Bit Depth and Pure Tone made an enormous difference

